

CLAIMS

What is claimed is:

1. A compressor having a protective coating disposed on an outside surface of the compressor, the protective coating comprising:
a sprayed metallic layer disposed on the outside surface of a shell housing of the compressor.
2. The compressor of Claim 1 wherein the sprayed metallic layer is a flame sprayed layer.
3. The compressor of Claim 2 wherein the flame sprayed layer is a powder flame sprayed layer.
4. The compressor of Claim 2 wherein the flame sprayed layer is a wire flame sprayed layer.
5. The compressor of Claim 1 wherein the sprayed metallic layer is formed by electric arc wire spraying.
6. The compressor of Claim 1 wherein the sprayed metallic layer comprises aluminum.

7. The compressor of Claim 6 wherein the sprayed metallic layer further comprises magnesium.

8. The compressor of Claim 7 further comprising less than 10 percent magnesium.

9. The compressor of Claim 7 wherein the metallic layer comprises less than about 5 percent magnesium.

10. The compressor of Claim 6 wherein the metallic layer comprises more than about 99 percent aluminum.

11. The compressor of Claim 1 wherein the sprayed metallic layer has a thickness of between 0.010 to 0.015 inches.

12. The compressor of Claim 1 wherein the sprayed metallic layer has an adhesion strength between the compressor and the sprayed metallic layer of at least 1,000 psi.

13. The compressor of Claim 1 wherein the sprayed metallic layer comprises flattened droplets of metal.

14. The compressor of Claim 1 wherein the sprayed metallic layer is a porous coating.

15. The compressor of Claim 1 further comprising a silicon based surface layer disposed on the sprayed metallic layer.

16. A compressor having a housing vessel with an exterior surface and a protective coating disposed on the exterior surface, the protective coating comprising:

a sprayed aluminum layer disposed on the exterior surface of the housing vessel; and

a surface layer disposed on the sprayed aluminum layer.

17. The compressor of Claim 16 wherein the surface layer comprises a carrier, and an organic compound.

18. The compressor of Claim 17 wherein the surface layer further comprises inorganic particulate.

19. The compressor of Claim 18 wherein the inorganic particulate comprises aluminum.

20. The compressor of Claim 16 wherein the surface layer comprises an ultraviolet stabilizer.

21. The compressor of Claim 16 wherein the surface layer can withstand greater than 300°F exposure without degradation.

22. The compressor of Claim 16 wherein the based surface layer has a thickness of less than 0.002 inch.

23. A compressor having a protective coating disposed on an outside surface of the compressor, the protective coating comprising:

a sprayed metallic layer disposed on the outside surface of a shell housing of the compressor; and

a silicon resin acrylic sealant layer disposed on the sprayed metallic layer.

24. The compressor of Claim 23 wherein the sprayed metallic layer is a flame sprayed layer.

25. The compressor of Claim 24 wherein the flame sprayed layer is a powder flame sprayed layer.

26. The compressor of Claim 24 wherein the flame sprayed layer is a wire flame sprayed layer.

27. The compressor of Claim 23 wherein the sprayed metallic layer is formed by electric arc wire spraying.

28. The compressor of Claim 23 wherein the sprayed metallic layer comprises aluminum.

29. The compressor of Claim 28 wherein the sprayed metallic layer further comprises magnesium.

30. The compressor of Claim 29 further comprising less than 10 percent magnesium.

31. The compressor of Claim 29 wherein the metallic layer comprises less than about 5 percent magnesium.

32. The compressor of Claim 28 wherein the metallic layer comprises more than about 99 percent aluminum.

33. The compressor of Claim 23 wherein the sprayed metallic layer has a thickness of between 0.010 to 0.015 inches.

34. The compressor of Claim 23 wherein the sprayed metallic layer has an adhesion strength between the compressor and the sprayed metallic layer of at least 1,000 psi.

35. The compressor of Claim 23 wherein the silicon resin acrylic sealant layer comprises parachlorobenzotriflouride, phenyl propyl silicone, mineral spirits, high solids silicone, acrylic resin and cobalt.

36. The compressor of Claim 23 wherein silicon resin acrylic sealant layer comprises metal particulates.

37. A compressor having a housing vessel with an exterior surface and a protective coating disposed on the exterior surface, the protective coating comprising:

a sprayed aluminum layer disposed on the exterior surface of the housing vessel; and

a silicon resin acrylic sealant layer disposed on the sprayed aluminum layer.

38. The compressor of Claim 37 wherein the silicon resin acrylic sealant layer comprises a carrier, and an organic compound.

39. The compressor of Claim 38 wherein the silicon resin acrylic sealant layer further comprises inorganic particulate.

40. The compressor of Claim 38 wherein the inorganic particulate comprises aluminum.

41. The compressor of Claim 36 wherein the silicon resin acrylic sealant layer comprises an ultraviolet stabilizer.

42. The compressor of Claim 36 wherein the silicon resin acrylic sealant layer can withstand greater than 300°F exposure without degradation.

43. The compressor of Claim 36 wherein the silicon resin acrylic sealant layer has a thickness of less than 0.002 inch.

44. A compressor having a protective coating disposed on an outside surface of the compressor, the protective coating comprising:

a sprayed metallic layer disposed on the outside surface of a shell housing of the compressor; and

a sealant layer disposed on the sprayed metallic layer, the sealant layer comprises epoxy polyamide with n-butyl alcohol, C8,C10 aromatic hydrocarbons, zinc phosphate compounds and amorphous silica.

45. A compressor having a protective coating disposed on an outside surface of the compressor, the protective coating comprising:

a sprayed metallic layer disposed on the outside surface of a shell housing of the compressor; and

a sealant layer disposed on the sprayed metallic layer, the sealant layer comprises a polyurethane polymer with curing agents containing ethyl acetate, hexamethylene diisocyanate, homopolymer of HDI, n-butyl acetate and fine aluminum particles.

46. A compressor having a protective coating disposed on an outside surface of the compressor, the protective coating comprising:

a sprayed metallic layer disposed on the outside surface of a shell housing of the compressor; and

a sealant layer disposed on the sprayed metallic layer, the sealant layer comprises a neutral urethane base acrylic with ethyl benzene, methyl ketone, xylene, aromatic naphtha, barium sulfate, and 1,2,4 trimethyl benzene and a polyisocyanate curing agent.